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ARE THE HIGHEST QUALITY AVAILABLE**

INITIAL RP DATE 1/26/00

Test Area North, Waste Area Group 1
Public Comment Document N3

Comment(s)

Response to Comments

Table B

TAN Site	Contaminant	Concentration	Reference
ANP Cask Storage Pad	Gross Alpha	330 pCi/g	(a) Table A-5-5
	Gross Beta	25,600 pCi/g	"
	Cs-137	30,400 pCi/g	"
TSF-3 Burn Pit			
	Lead	2,830 mg/kg (a)	Likely exceeds LDR TCLP for lead 0.37 mg/l (a) Table A-2-3
TSF-06 Turn Table Contaminated Soil	Cs-137	30,400 pCi/g	(a) 4-24
	Gross Beta	1,880 pCi/g	(a) Table A-5-7
	Mercury Lead	80,300 mg/kg 50.4	Exceeds LDR TCLP for mercury at 0.025 mg/l Lead 0.37 mg/l (a) Table A-5-6
TSF-07 TAN Disposal Pond	Sight Treatment Plan	lists as MLLW	STP @ 6-3
	aluminum	25,400 mg/kg	(a) 4-29
	Chromium Lead Selenium	237 mg/kg 210 42	Likely exceeds LDR TCLP for Lead @ 0.37 Selenium @ 0.16 (b) 4-110
	mercury barium	4,040 mg/kg 9,740	Exceeds LDR TCLP mercury at 0.025 mg/l Barium at 7.6 mg/l (b) 4-110
	sulfide	4,270 mg/kg	(b) 4-110
	Cobalt-60	87.7 pCi/g	(b) 4-110
	Cesium-137	135 pCi/g	(b) 4-110
Drainage Pool (TSF-10)	aluminum	20,400 mg/kg	(a) 4-26
V-1 Tank Liquid (TSF-09/18)	STP Lists Liquid and Sludge	MLLW	STP @ 6-3
	Cobalt-60	101,000 pCi/l	(a) Table A-6-10
	Cs-134	16,960 pCi/l	(a) Table A-6-10
	Cs-137	12,500,000 pCi/l	(a) Table A-6-10
	Europium-152	83,800 pCi/l	(a) Table A-6-10
	Europium-154	93,800 pCi/l	(a) Table A-6-10

N3-12/53 (continued)

four Superfund projects to date. These previous demonstrations and the treatability study show that planar ISV could be expected to successfully treat the V-Tank contents and surrounding contaminated soil to achieve final remediation goals.

For the V-Tanks treatability study, two tests were performed. The first test, using soil from the TAN site, demonstrated that planar ISV can develop a melt of sufficient scale and configuration to process the 10,000-gal V-Tanks. The second test was performed on a 4,500-gal scaled-down version of a V-Tank containing simulated sludge and liquids, including a non-radioactive cesium compound. The volatile materials present in the actual V-Tanks were also simulated. The remaining void space in the tank was filled with soil. A post-test evaluation showed that the melts developed symmetrically with no pressure build-up generated within the tank. The tank was successfully treated with no process upsets. Evaluation of the pre- and post-test chemical sampling data indicated that, despite its relatively remote placement in the bottom of the tank, the cesium was essentially uniformly dispersed and 99.97% of the cesium was retained in the vitrified block. Volatile compounds in the soil were also remediated. The minor quantities of debris (rocks, wire, plastic, and wood) that were processed during the test had no observable effect on the ISV process. Although organics were not present in the treatability test, it has been successfully demonstrated previously that ISV results in the effective destruction of organic contaminants while ensuring full compliance with air emission requirements. The vitrified block was excavated, fractured, and sampled to verify effectiveness. The concentration of cesium, lithium, and molybdenum tracer materials were shown to be essentially uniform throughout the monolith.

However, the treatability study also identified additional costs that were not included in the cost estimate prepared for the comprehensive RI/FS or presented in the proposed plan. As a result, the Alternative 4 - In Situ Vitrification cost for the V-Tanks sites increased by 50%, lowering its relative ranking due to this decrease in cost-effectiveness.

At the same time, two commercial facilities became available for ex situ treatment of the tank contents, increasing the implementability of Alternative 2 - Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal. The facilities are permitted to dispose of mixed wastes similar to those in the V-Tanks. The V-Tanks alternatives were reevaluated to factor in this new information on the ISV cost and the off-site treatment availability. Because the new variation of Alternative 2 would have equally high long-term effectiveness and implementability and greater cost-effectiveness compared to Alternative 4, Alternative 2 was selected as the remedy for the V-Tanks. Additional details on the reevaluation of alternatives for the V-Tanks are in Part II, Section 7.1, of this ROD.

N3-13/54

See response to Comment N3-11, above.

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	Plutonium-238	7,018 pCi/l	(a) Table A-6-10
	Plutonium-239	1,220 pCi/l	(a) Table A-6-10
	Americium-241	8,680 pCi/l	(a) Table A-6-10
	Gross Beta	16,100,000 pCi/l	(c) 59
	Gross Gamma	24,300,000 pCi/l	(c) 59
	Gross Alpha	12,800 pCi/l	(c) 59
	Tritium	11,800,000 pCi/l	(a) Table A-6-10
	Total Strontium	1,840,000 pCi/l	(a) Table A-6-10
	Mercury Barium Cadmium Chromium Lead Silver	0.842 mg/l 2,320 mg/kg 330 280 81.7 18	Likely Exceeds UTS mercury @ 0.15 mg/l barium @ 7.6 mg/l Cadmium @ .19 Lead @ .37 Silver @ .30 (a) Table A-6-10 & 11
	Tetrachloroethene Trichloroethene	1,300 mg/kg 23	Exceed LDR UTS (a) Table A-6-11
	Vinyl Chloride 1,1 Dichloroethene Chloroform 1,2 dichloroethene Carbon tetrachloride Benzene Chlorobenzene		All Exceed LDR UTS (c) 8 through 12
Tank V-2 TSF-09/18	STP Lists Liquid and Sludge	ALL W	STP @ 6-3
	Cobalt-60	10,500 pCi/l	(a) A-6-10
	Cesium-137	20,200,000 pCi/l	(a) A-6-10
	Strontium-90	1,430,000 pCi/l	(a) A-6-10
	Gross Beta	21,400,000 pCi/l	(a) A-6-10
	Gross Gamma	38,500,000 pCi/l	(c) 59
	Gross Alpha	84.9 pCi/l	(c) 59
	Trichloroethene Tetrachloroethene Cadmium Vinyl Chloride	All four chemicals/metals Exceed TCLP	(c) 8 through 12
	1,2-Dichloroethene Carbon tetrachloride Benzene	All three chemicals at the TCLP level	(c) 8 through 12
	18 Hazardous Chemicals	Exceed Universal Treatment Standards	(b) 10-44 40 CFR 268.48

N3-14/54, 58

The Agencies would enforce all applicable ARARs, including LDRs, as identified in Part II of this ROD. Verification techniques would be described in the remedial design. The selected remedy for the V-Tanks was changed to Alternative 2 – Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal during a reevaluation of alternatives for this site, triggered by an increase in the estimated cost for the ISV alternative, and the new availability of off-site commercial treatment facilities permitted to handle mixed wastes similar to those in the V-Tanks.

N3-15/54

See response to Comments N3-11 and N3-14, above.

N3-16/4

The investigation and cleanup process and schedule for TAN have complied with the FFA/CO for the INEEL signed in 1991. Every reasonable effort is made to ensure that TAN remediation activities contribute to the ultimate goal of protecting human health and the environment by use of recognized engineering and institutional responses, that meet standards for protectiveness identified by the Agencies. These standards (ARARs) were identified in the comprehensive RI/FS and this ROD and will be enforced by the Agencies.

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V-1 Tank (TSF-09/18)	STP lists	MLLW	STP @ 6-3
	Uranium-233/234	13,300 pCi/l	(b) A-93
	Strontium-90	12,300,000 pCi/l	"
	Cobalt-60	14,800 pCi/l	"
	Cesium-137	4,230,000 pCi/l	"
	Ruthenium-103	13,600 pCi/l	"
	Tritium	6,090,000 pCi/l	"
	Nickel-63	205,000 pCi/l	"
	Gross Beta	28,300,000 pCi/l	(c) 59
	Gross Gamma	2,230,000 pCi/l	(c) 39
	Trichloroethene Tetrachloroethene Vinyl Chloride	All three chemicals/metals Exceed TCLP	(c) 8 through 12
	1,2-Dichloroethane Carbon tetrachloride Benzene	All three chemicals at the TCLP level	(c) 8 through 12
	18 Hazardous Chemicals	Exceed LDR Universal Treatment Standards	(b) 10-44 40 CFR 268.48
V-9 Tank (TSF-09/18)	STP Lists Liquid and Sludge	MLLW	STP @ 6-3
	Americium-241	40,200 pCi/l	(b) A-91
	Plutonium-238	170,000 pCi/l	(b) A-91
	Plutonium-239/240	45,300 pCi/l	(b) A-91
	Uranium-233	12,400 pCi/l	(b) A-91
	Uranium-234	211,000 pCi/l	(b) A-91
	Uranium-235	6,900 pCi/l	(b) A-91
	Uranium-236	3,260 pCi/l	(b) A-91
	Uranium-238	972 pCi/l	(b) A-91
	Cesium-137	6,370,000 pCi/g	(b) A-91
	Tritium	343,000,000 pCi/l	(b) A-91
	Total Strontium	250,000,000 pCi/l	(b) A-91
	Cesium-244	5,210 pCi/l	(b) A-91
	Cobalt-60	1,160,000 pCi/l	(b) A-91
	26 hazardous chemicals/metals	Exceed LTS Treatment Standards	(b) 10-44 40 CFR 268.48

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PM-2A TSF-26 V-13 Tank	50,000 gallon tank	STP lists Liquids and Sludge as MLLW	STP @ 6-3
	Cobalt-60	45,900,000 pCi/l	(c) 10-31
	Europtium-154	93,000,000 pCi/l	(C)10-31
	Cesium-137	2,900,000,000 pCi/l	(c) 10-31
	Strontium-90	2,850,000,000 pCi/l	(c) 10-31
	Cesium-134	18,100,000 pCi/l	(c) 10-31
	11 Hazardous Chemicals/metals	Exceed UTS Treatment Standards	(b) 10-28 to 31 40 CFR 268.48
PMA-2M TSF-26 V-14 Tank	50,000 Gallon Tank	TSP Lists Liquid and Sludge as MLLW	STP @ 6-3
	Cobalt-60	191,000,000 pCi/l	(c) 31
	Cesium-134	2,000,000 pCi/l	(C) 31
	Cesium-137	9,420,000,000 pCi/l	(c) 31
	Europtium-154	17,200,000 pCi/l	(c) 31
	Strontium-90	9,260,000,000 pCi/l	(c) 31
	13 hazardous chemicals/metals	Exceed UTS Treatment Standards	(b) 10-28 to 31 40 CFR 268.48
V Tank soil	STP lists as MLLW	54,120 pCi/g	RE-P-80-090 @6
IFT Valve Pit TSF-31	STP lists	MLLW	STP @ 6-3
	Cs-137	602,000 pCi/l	(a)Table A-9-2
	Lead Five other inorganic likely exceed UTS	9,340 ug/l	Exceeds UTS of 0.69 mg/l (a) Table A-9-2
	Trichloroethylene Seven other organic exceed UTS	22,000 ug/l	Exceeds UTS of 0.834 mg/l (a)Table A-9-2
Cell-02 Disposal Pond	aluminum beryllium vanadium	23,900 mg/kg	Likely exceed LLR UTS standards (b) 7-13
	manganese	1,080 mg/kg	-
	gross alpha	8,400 pCi/kg 8.4 pCi/g	-
	gross beta	6,500 pCi/kg 6.5 pCi/g	-
WRRTF-01 Durn Pit	Xylene	0.600 mg/kg	(a) Table A-3-3

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	Acetone	4,200 mg/kg	(a) Table A-3-5
	Naphthalene	7,800 mg/kg	Likely exceeds UTS of 5.6 mg/kg (a) Table A-3-5
	2-methylnaphthalene	10,300 mg/kg	Likely exceeds UTS at 5.6 mg/kg (a) Table A-3-5
	Lead Mercury	2,350 mg/kg 18 mg/kg	Likely Exceeds LDR TCLP for lead at 0.37 mg/l mercury at 0.25 mg/l (a) Table A-3-6
Diesel Fuel Tank WRATE-13	TPH	35,700 mg/kg	Likely exceeds UTS for TPH (b) 4,440

Acronyms

LDR = Land Disposal Restrictions (40 CFR 148 through 271)

TCLP = Toxicity Characteristic Leachate Procedure (40 CFR 148 through 271)

UTS = Universal Treatment Standards (40 CFR 148 through 271)

PRG = Preliminary Remediation Goals (EPA cleanup goals based on risk values 12/18/96)

References: In the table above, a letter in parenthesis refers to the corresponding letter below.

(a): Work Plan for Waste Area Group 1, Operable Unit 1-10, Comprehensive Remedial Investigation / Feasibility Study, Idaho National Engineering Laboratory, US Department of Energy Idaho Operations Office, DOE-ID-10527, March 1996.

(b): Comprehensive Remedial Investigation / Feasibility Study for the Test Area North Operable Unit 1-10, Idaho National Engineering Laboratory, US Department of Energy Idaho Operations Office, DOE-ID-10527, November 1997.

(c): Field Sampling Plan for Operable Unit 1-10: Test Area North, D. L. Michael, Lockheed Idaho Technologies Company, Idaho National Engineering Laboratory, March 1996

(STP): Idaho National Engineering Laboratory, Proposed Site Treatment Plan, March 1993, DOE-ID-10493, U.S. Department of Energy Idaho Operations Office

Plan, Proposed Plan for Waste Area Group 1 - Test Area North, Idaho National Engineering and Environmental Laboratory, November 1998, INEEL Environmental Restoration Program

Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Environmental Impact Statement, April 1991, DOE/EIS-0290-2

Federal Register, May 26, 1998, Part II, Environmental Protection Agency, 40 CFR Parts 148 to 271, Land Disposal Restrictions Phase IV Final Rule

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Public Comment Document N4



john commander <jxc@ida.net> on 01/21/99 02:00:52 PM

To: Ann M Riedesel/AMH/LITCO/INEELUS
cc: jobow@sfv.net
Subject: WAG 1 Recommendations

Dear Ms. Ann Riedesel,

Following are Coalition 21 Recommendations on WAG 1:

Coalition 21 appreciates the opportunity to evaluate and comment on the Proposed Plan for Waste Area Group 1 (WAG 1). We commend the project personnel for the actions taken in response to the public input. The revised plan is more streamlined and reader friendly.

With regard to the risk assessment approach, the 1 in 10,000 as a measure of acceptable risk to human health is very conservative. However, we can accept that criterion if the risk assessment is done in an acceptable science-based manner. Our major concern is that the risk assessment values calculated in this plan are based on a non-scientific hypothesis. All risk calculations are based on the "linear-no-threshold" hypothesis, which links risk of cancer to radiation doses down to zero. There is no scientific evidence to support this theory. In fact the Council of Scientific Society Presidents has stated that radiation levels below 10 rem/yr are not clearly linked to an increased of cancer for adults.

Coalition 21 submits the following recommendations on the Proposed Plan:

1) We recommend that the risk calculations be done based upon more scientific criteria. For example:

*Take the Federal limit on Public Radiation Exposure from the NRC General Public Limit of 0.1 rem/yr. as the baseline or threshold for zero risk of cancer for the public

*Take the Federal limit on Worker Radiation Exposure of 5.0 rem / yr. as the baseline for zero risk of cancer to a worker

2) We then recommend that a cost comparison be done between the resulting plan and the current plan. The public should be informed of the cost differential. If the public is informed of the cost associated with little or no risk benefit, we do not believe they would approve the expenditure of millions of dollars on radiation protection that provides no measurable benefit.

3) We recommend listing and definition of acronyms used in the Plan

4) The proposed plan should include an appendix or readily available supplement that explains the risk assessment method(s) used in the plan. The project presentation made to Coalition 21 on Jan. 13, 1999 created some confusion for our reviewers. The choice of the word "methods" in describing the various degrees of conservatism is unclear. Were there really two methods used in calculating the risks, or are these so-called methods really assumptions used in a single method of calculation? We find the non-conservative nerna considerably more realistic than the conservative

Comment(s)

Response to Comments

N4-1/7

The Agencies encourage citizen involvement in decision-making at the INEEL. To ensure opportunities for public interaction with project representatives, public meetings are conducted at multiple locations across the state to ensure that interested parties can participate, despite their distance from the INEEL itself. The WAG 1 proposed plan was revised extensively and re-released in direct response to public comments. The comment periods for both proposed plans were extended in response to public requests for additional time to participate in the decision-making process. A broad variety of topics are discussed in the informal portions of the public meetings, in response to the concerns of the people who attend. A variety of materials on the many ongoing cleanup programs are made available to people who attend the meetings. In addition, the INEEL provides other avenues for public involvement, including tours and briefings. Postal addresses, telephone numbers, e-mail addresses, and Internet site addresses are provided in each proposed plan for citizens to get additional information, briefings, or tours from Agency and project representatives.

N4-1/7

N4-2/11

N4-2/11

An effort was made to respond to specific areas that concerned readers, which included organizing a focus group with members of the public to ask exactly what items were hard to read or understand, and hear ideas on improvement. Many changes resulted from readers' requests.

N4-3/27

N4-3/27

Uniform CERCLA regulations/process require that the risk assessment estimates used in the comprehensive RI/FS be based on the goal of reducing risk to acceptable levels. The alternatives subsequently considered and the costs estimated for them are likewise required to relate only to actions that reduce the risks to acceptable levels.

Assessments of risks and hazards from chemicals use national uniform standards determined by scientific testing and agreed upon by agencies such as the EPA. Chemicals and compounds for which toxicity values cannot yet be established (such as PCBs and diesel fuel) use hazard quotients or risk-based guidelines, identified through federal and state regulations.

N4-4/16

N4-4/16

See response to Comment N4-3, above.

N4-5/12

N4-5/12

N4-6/12

The Agencies appreciate all suggestions from the public on types of information that could help a proposed plan better serve its purpose. Proposed plans use very few acronyms, as part of the effort to make the documents understandable to the general public. All acronyms are defined when they are first used. As a standard practice, technical documents such as the comprehensive RI/FS and this ROD provide a list of all acronyms used following the table of contents in the document.

N4-7/25

N4-8/27

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items. As in the case of radiation protection (Comments 1 and 2 above) the cost savings from relaxing the other conservative items should be evaluated.

Sincerely, John Commander, Treasurer Coalition 21

Comment(s)

N4-8/27
(continued)

Response to Comments

N4-6/12

Risk assessment methods can only be summarized in the proposed plan, but are always described in detail as required in the RI/FS on which the plan is based.

The proposed plan, under CERCLA guidelines, supplements and is based on the comprehensive RI/FS "but is not a substitute for that document." The proposed plan provides a "brief summary description" of (1) the remedial alternatives evaluated; (2) the alternative that is preferred; (3) the information that supports the selection of the preferred alternative. Other sections of the proposed plan – history and nature of site contamination, previous actions, and risk assessment – are merely summaries of more detailed investigations, included as background information.

For readers who seek more comprehensive detail on any aspect of the investigation process, the plan provides references to the relevant sections of the comprehensive RI/FS and other documents in the Administrative Record that present in full the information from which the proposed plan is derived. The complete details of operable unit investigations, including sampling data, data sources, and maximum contaminant levels, can be found in the comprehensive RI/FS, Track 1, Track 2, and other WAG 1 documents in the Administrative Record.

N4-7/25

The comprehensive risk assessment process uses one method of risk calculation, with multiple assumptions and calculations, depending on the type of contaminant and media. Risk assessment is a complex task, and the section summarizing this in proposed plans continues to be worked on intensively in every successive proposed plan, to improve its clarity while keeping it short. Suggestions on which elements of this section are clear, and which still need improvement, are appreciated.

N4-8/27

See response to Comment N4-6, above.

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Public Comment Document N5

Comment(s)

Response to Comments

Snake River Alliance

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Comments on the Proposed Plan for
Waste Area Group 1- Test Area North
Idaho National Engineering and Environmental Laboratory

Snake River Alliance

January 25, 1999

The following comments and questions are submitted on behalf of the 1,300 members of the Snake River Alliance, an Idaho-based grassroots group that has monitored activities at the Idaho National Engineering and Environmental Laboratory since 1979

Thank you for accepting these comments a few days after the deadline. We appreciate that such an informal extension is a less cumbersome way of accommodating public participation

This proposed plan is the most accessible of any produced so far. The graphics, particularly the shaded tables, are helpful, as is the up-front identification of preferred alternatives

We are still, however, not always certain how/why the specific preferred alternative was chosen. In the comments here, this question might be illustrated by the differing approaches to the two tank sets at TAN. This general comment is true for other INEEL cleanup plans as well. It sometimes seems as if an unstated goal is to have a variety of cleanup approaches for each WAG. This may not be an appropriate CERCLA goal. It also creates some suspicion that the agencies know what they want to do (not only what they must accomplish) and then develop their analysis to reach that point.

The Alliance has a second general concern, which we raised in our initial comments on the WAG 3 proposed plan:

N5-1/7

N5-2/11

N5-3/42

N5-4/34

N5-5/37

N5-1/7

The Agencies encourage citizen involvement in decision-making at the INEEL. To ensure opportunities for public interaction with project representatives, public meetings are conducted at multiple locations across the state to ensure that interested parties can participate, despite their distance from the INEEL itself. The WAG 1 proposed plan was revised extensively and re-released in direct response to public comments. The comment periods for both proposed plans were extended in response to public requests for additional time to participate in the decision-making process. A broad variety of topics are discussed in the informal portions of the public meetings, in response to the concerns of the people who attend. A variety of materials on the many ongoing cleanup programs are made available to people who attend the meetings. In addition, the INEEL provides other avenues for public involvement, including tours and briefings. Postal addresses, telephone numbers, e-mail addresses, and Internet site addresses are provided in each proposed plan for citizens to get additional information, briefings, or tours from Agency and project representatives.

N5-2/11

An effort was made to respond to specific areas that concerned readers, which included organizing a focus group with members of the public to ask exactly what items were hard to read or understand, and hear ideas on improvement. Many changes resulted from readers' requests.

N5-3/42

CERCLA guidance requires that remedial alternatives be compared according to nine evaluation criteria. The criteria are grouped in three categories: (1) threshold criteria that relate directly to statutory findings and must be satisfied by each chosen alternative, (2) balancing criteria used to refine the selection of candidate alternatives for the site by evaluating their effectiveness, implementability, and cost, and (3) modifying criteria that measure the acceptability of the alternatives to state agencies and the community.

The two threshold criteria, which must be satisfied by the selected remedy, are overall protection of human health and the environment, and compliance with ARARs. The five balancing criteria, which are used to refine the selection of the candidate alternatives, are (1) long-term effectiveness and permanence, (2) reduction of toxicity, mobility, or volume through treatment, (3) short-term effectiveness, (4) implementability, and (5) cost. The comparison of alternatives on the cost criterion is specifically made in terms of cost-effectiveness, that is, the cost of the remedy relative to its overall effectiveness as measured by the first three balancing criteria. An alternative satisfies this criterion best if its costs are proportional to its overall effectiveness. The modifying criteria, state and community acceptance, are used in the final evaluation of remedial alternatives.

N5-4/34

The primary objective of the feasibility study is to develop and evaluate remedial alternatives that will protect human health and the environment by removing waste; by eliminating it through treatment; or by controlling, reducing, or elimi-

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N5-4/34 (continued)

nating risks posed by each pathway at a site. CERCLA guidance (40 CFR 300.430) directs that the alternatives that are developed include:

- (1) the No Action alternative (which may be no further action if some removal or remediation has already taken place)
- (2) one or more alternatives that provide little or no treatment, but protect through engineering and, as necessary, institutional controls
- (3) a range of alternatives involving treatment to reduce toxicity, mobility, or volume of contaminants and, as appropriate, an alternative that removes or destroys the contamination
- (4) one or more innovative treatment technologies if they offer the potential for equal or better performance or implementability, fewer or less adverse impacts, or lower costs in comparison to demonstrated treatment technologies.

Three criteria are used to develop and screen alternatives: effectiveness (short-term and long-term), implementability, and cost. Alternatives that do not provide adequate protection of human health and the environment or comply with ARARs are to be eliminated from further consideration. This is done first, prior to any other evaluation. Alternatives that are technically or administratively unfeasible or that would require equipment, specialists, or facilities that are not quickly available may be eliminated. If costs of construction or operations and maintenance are grossly excessive compared to overall effectiveness, an alternative may be considered for elimination.

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<p>What is the design life for the ICDF liner? For the cover?... Will any of the caps or covers proposed for the Chem Plant require maintenance? Please describe this effort fully....The volumes and contamination levels for the soil dump aren't clear. It is inappropriate to ask the public to sign-off on the soil dump before its waste acceptance criteria are known. Will the public have an opportunity to help develop and comment on the soil dump design and WAC?</p> <p>Now that it's apparent that other Site cleanup depends on the availability of the Chem Plant soil dump, we ask for a full briefing on the proposed facility, particularly its design size and life and WAC. Any cleanup plan (such as this) that assumes the existence of the Chem Plant soil dump should include a full description of that proposed facility.</p> <p>We have raised our third general concern elsewhere as well. When INEEL "cleanup" is declared "complete," there will be a substantial amount of contamination remaining above the Snake River Aquifer.</p> <p>Why were different treatment approaches chosen for the V-tanks and the PM-2A tanks? The contents seem to be similar (though the V-tanks still contain liquid); in-situ vitrification is more expensive than the industrial vacuum scenario. Please describe the ISV track record throughout the DOE complex, particularly when partially filled tanks are involved. Would it be possible to absorb the liquid in the PM-2A tanks (as was done with the V-tanks) and then use the industrial vacuum for both sets? Describe the decontamination required after the PM-2A tanks are emptied and why they will then be filled with grout. It's not clear what treatment of the PM-2A tanks is required or intended: "treatment" is mentioned in several of the alternatives, though the vacuum removal option seems to obviate treatment. How does this happen?</p> <p>Are the "previous removal actions" mentioned for the soil south of the turntable the 1996 Dirt Train to Hell?</p> <p>In the discussion of the burn pits, the assertion is made that "implementability would be high, given INEEL's success using soil covers." In light of the significant contribution hubris and blind confidence in technology made to the serious environmental problems we all face in the DOE complex today, we should bear in mind that the success record for INEEL soil covers is about a decade long. Lead, the contaminant of concern at the burn pits, has no half-life.</p>	<p>N5-5/37 (continued)</p> <p>N5-6/9</p> <p>N5-7/6</p> <p>N5-8/ 50, 57</p> <p>N5-9/53</p> <p>N5-10/ 50, 57, 58</p> <p>N5-11/59</p> <p>N5-12/71</p>	<p>N5-5/37</p> <p>The actual on-site disposal location for TAN materials, which could be the Radioactive Waste Management Complex (RWMC), the proposed ICDF, or another facility, will be determined during remedial design following implementation of this ROD. The proposed ICDF would be a landfill for low level radionuclide-contaminated soil and debris. Selection of the ICDF for disposal of TAN materials depends at least in part on the timeframe associated with construction of the facility and its waste acceptance criteria. Costs for this facility, however, would likely be much lower than current RWMC disposal fees.</p> <p>The development of the ICDF itself is being planned under Waste Area Group 3 at the Idaho Nuclear Technology and Engineering Center (INTEC; formerly the Idaho Chemical Processing Plant). A description of the proposed ICDF, including its siting, design, capacity, lifespan, and waste acceptance criteria, was presented in October 1998, in the <i>Proposed Plan for Waste Area Group 3 at the Idaho Chemical Processing Plant</i>. The Record of Decision for Waste Area Group 3 is expected to be finalized in September 1999.</p> <p>N5-6/9</p> <p>The Agencies encourage citizen involvement in decision-making at the INEEL. Although the ICDF may be selected as the on-site disposal facility for TAN materials during the WAG 1 remedial design, the development of the ICDF itself is being planned under Waste Area Group 3 at the Idaho Nuclear Technology and Engineering Center (INTEC; formerly the Idaho Chemical Processing Plant).</p> <p>See also response to Comment N5-5, above.</p> <p>N5-7/6</p> <p>The goal of the actions taken under this ROD is to reduce risks posed by contamination to levels that protect human health and the environment. Sites will be cleaned up to meet the remedial action objectives (RAOs) specified in the comprehensive RI/FS, the revised (November) proposed plan, and the ROD for WAG 1, wherever that is practicable given considerations of technical feasibility and cost-effectiveness, as directed under CERCLA. The RAOs are based on the results of the human health risk assessment and are specific to the contaminants of concern and exposure pathways. To meet these RAOs, final remediation goals were established to ensure a risk-based protectiveness of human health and the environment by providing unrestricted land use in 100 years. Any contamination left in place by the actions taken under this ROD will be below these levels, or will be prevented by engineering and institutional controls from completing a pathway to human receptors or the environment. The CERCLA process followed in the comprehensive RI/FS evaluated potential groundwater impacts from TAN release sites to ensure that groundwater quality is not affected. Groundwater remediation actions were required by the 1995 Record of Decision for the TSF-05 Injection Well and are on track to meet remedial objectives. Monitoring will continue to be carried out to verify the protectiveness of TAN CERCLA actions, where appropriate.</p> <p>N5-8/50, 57</p> <p>The COCs at these two sites are similar. The PM-2A Tanks are 5 times larger than the V-Tanks. The PM-2A Tanks contain a few inches of sludge and essentially no liquid, while the V-Tanks contain mostly liquid with very little sludge. Because of</p>

Test Area North, Waste Area Group 1
Public Comment Document N5

Comment(s)

Response to Comments

N5-8/50, 57 (continued)

these differences, similar alternatives could be developed but evaluation resulted in strong differences in their overall implementability.

In situ vitrification (ISV) has now been demonstrated in a 1998 treatability study to be feasible for tanks up to the size of the V-Tanks (10,000 gal). However, the PM-2A Tanks are 50,000 gal and the implementability is uncertain.

The PM-2A Tanks selected remedy does, in fact, use an industrial vacuum on liquid absorbed into diatomaceous earth. It seems likely that the original comment (N5-10) was intended to question whether the vacuum technology developed for the PM-2A Tanks could also be used on the V-Tanks. The vacuum removal alternative was developed for the PM-2A Tanks specifically to deal with the removal problems caused by the absence of liquid in the tank contents. It is a vacuum excavation technology in which a high-velocity air stream penetrates, expands, and breaks up the solids and sludges, which are then captured by a high-powered vacuum air stream. The revised proposed plan did not clarify that the alternative involves air-jet excavation before vacuum removal of the sludge.

Alternatives involving vacuum extraction or stabilization were developed for the V-Tanks, but were ranked lower than the selected remedy because of problems with implementability or effectiveness. Detailed descriptions of the alternatives developed for these two sites and their evaluations are in the comprehensive RI/FS and the Feasibility Study Supplement.

N5-9/53

The ISV technology that was tested is a modification called planar ISV. It is described in the *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854). Planar ISV is an enhancement of conventional ISV technology that resolves problems that have occurred using conventional ISV. By treating the contamination matrix from the ground surface down, conventional ISV can trap volatile materials below the melt resulting in pressure buildup that can cause displacement of material from the melt pool, overheating of the off-gas treatment system, and process upsets. Planar ISV resolves these issues by positioning the melt planes to the sides of the contamination area, allowing the melt to proceed from the sides inward toward the center so the vapors can vent upward and be effectively and safely removed. Reliability problems and process upsets are not anticipated for planar ISV.

Planar ISV could simultaneously treat, in situ, the radioactive and chemically hazardous materials in the V-Tanks (including the PCBs) and the contaminated soil surrounding the tanks. A full-scale demonstration to meet Toxic Substances Control Act (TSCA) requirements was performed at the Apparatus Service Center Superfund Site in Spokane, Washington, to treat PCBs. All objectives were met and an EPA TSCA permit was issued in October 1995. A large-scale remediation was successfully performed on dioxin and other organic wastes from the Wasatch Chemical Superfund Site in Salt Lake City, Utah. At both sites, treatment efficiency of over 99.99% was demonstrated. The planar ISV system has been accepted for use on four Superfund projects to date. These previous demonstrations and the treatability study show that planar ISV could be expected to successfully treat the V-Tank contents and surrounding contaminated soil to achieve final remediation goals.

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N5-9/53 (continued)

For the V-Tanks treatability study, two tests were performed. The first test, using soil from the TAN site, demonstrated that planar ISV can develop a melt of sufficient scale and configuration to process the 10,000-gal V-Tanks. The second test was performed on a 4,500-gal scaled-down version of a V-Tank containing simulated sludge and liquids, including a non-radioactive cesium compound. The volatile materials present in the actual V-Tanks were also simulated. The remaining void space in the tank was filled with soil. A post-test evaluation showed that the melts developed symmetrically with no pressure build-up generated within the tank. The tank was successfully treated with no process upsets. Evaluation of the pre- and post-test chemical sampling data indicated that, despite its relatively remote placement in the bottom of the tank, the cesium was essentially uniformly dispersed and 99.97% of the cesium was retained in the vitrified block. Volatile compounds in the soil were also remediated. The minor quantities of debris (rocks, wire, plastic, and wood) that were processed during the test had no observable effect on the ISV process. Although organics were not present in the treatability test, it has been successfully demonstrated previously that ISV results in the effective destruction of organic contaminants while ensuring full compliance with air emission requirements. The vitrified block was excavated, fractured, and sampled to verify effectiveness. The concentration of cesium, lithium, and molybdenum tracer materials were shown to be essentially uniform throughout the monolith.

However, the treatability study also identified additional costs that were not included in the cost estimate prepared for the comprehensive RI/FS or presented in the proposed plan. As a result, the Alternative 4 – In Situ Vitrification cost for the V-Tanks sites increased by 50%, lowering its relative ranking due to this decrease in cost-effectiveness.

At the same time, two commercial facilities became available for ex situ treatment of the tank contents, increasing the implementability of Alternative 2 – Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal. The facilities are permitted to dispose of mixed wastes similar to those in the V-Tanks. The V-Tanks alternatives were reevaluated to factor in this new information on the ISV cost and the off-site treatment availability. Because the new variation of Alternative 2 would have equally high long-term effectiveness and implementability and greater cost-effectiveness compared to Alternative 4, Alternative 2 was selected as the remedy for the V-Tanks. Additional details on the reevaluation of alternatives for the V-Tanks are in Part II, Section 7.1, of this ROD.

N5-10/50, 57, 58

Treatment is any component of an alternative that reduces the toxicity, mobility, or volume of the hazardous substances, pollutants, or contaminants through destruction or alteration. Stabilization, by decreasing the mobility of hazardous substances, is a form of treatment. Proposed plan wording may have incorrectly implied that stabilization is not a form of treatment.

Decontamination and other treatment as required to meet ARARs will be developed during the remedial design. Grouting, as a method of treatment or stabilization, will not be a part of the selected remedy.

See also response to Comment N5-8, above.


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Public Comment Document N5

Comment(s)

Response to Comments

It looks as if phytoremediation was a late addition to the mercury spill discussion and then beat all comers. Its appearance here might be an illustration of the agencies' underlying desire for variety. How was the mercury spill area chosen as a treatability study for phytoremediation? Why were no other alternatives discussed?

Respectfully submitted,


Beatrice Brailsford
Program director

N5-13/78

N5-11/59

A non-time-critical removal action was performed in 1995 under Operable Unit 10-06, which removed a total of 2,092 m³ (2,737 yd³) from an area of 180 by 90 m (600 by 300 ft). The average soil removal depth was 19 cm (7.5 in.) and the maximum depth removed was 45.7 cm (18 in.).

N5-12/71

The Agencies believe that the selection of Alternative 2 - Containment with Native Soil Cover for the Burn Pits is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability. The remedial design will require sampling and analysis to design the soil cover to ensure that it will be completely protective of human health and the environment. If it were determined that a fully protective cover could not be cost-effective, then one of the Alternative 3 variations (Excavation and On-Site or Off-Site Disposal) would be selected.

N5-13/78

In developing alternatives, CERCLA guidance expresses a preference for the development of innovative treatment technologies if they offer the potential for superior treatment performance or implementability, fewer adverse impacts than other available approaches, or lower costs for similar levels of performance than demonstrated technologies. Phytoremediation is a low-cost remediation option for sites with widely dispersed contamination at low concentrations. The study will determine the rate of uptake of mercury by plants at the INEEL. The design of the phytoremediation treatability study at the Mercury Spill Area (TSF-08) will include review of all current scientific documentation and ongoing research both in and beyond the DOE complex. Public information and comment opportunities will be carried out as part of the INEEL's public involvement activities. Based on the results of the phytoremediation treatability study, a determination will be made as to subsequent action, if required.

Response to Comments

JAN 21 '99 03:56PM SHO BPN TRIBES
TO ANFO

The SHOSHONE-BANDOCK TRIBES

**TRIALDOE COORDINATOR &
PROJECT DIRECTOR
P. O. BOX 305
PORT HALL, IDAHO 83803**

JANUARY 21, 1995

Mr. Jerry Lyle
Office of Program Evaluation
Department of Energy, Idaho Operations Office
Box 2047
Idaho Falls, Idaho 83415-2001

Re: CONGRESSIONAL 1960 1 PROPOSED PLAN IV1a (20-2578)

DEAR JERRY:

Attached documents are a few comments compiled by our Project Environmentalist, Ted Carpenter, regarding the FWS's Proposed Plan. In addition to technical comments, grammatical and typographical suggestions are offered for preparation of future documents.

We appreciate the opportunity to review this plan, and look forward to playing an active role in helping to formulate the necessary decisions of the Board.

References

Bob Sabat, Director, Tribal/DC Program

00: 11:00

11/10/83		QUICK FAX SERVICE	
TO: Jerry Kyle	FROM: Bob Scho		
DOE	Shirley		
Sub-5628	232-0747		
	233-3742		

Test Area North, Waste Area Group 1
Public Comment Document N6

Comment(s)

Response to Comments

Date: January 21, 1999

To: Jerry Lyle

From: Ted L. Carpenter, Project Environmentalist

Subject: Comments regarding the proposed plan for Waste Area Group 1 – Test Area North

The increased clarity of the November 1998 document is refreshing. The additional information statements in the margins are especially beneficial. You are to be commended for the additional information on page 3 regarding the traditional use of the area by the Shoshone-Bannock Tribes.

We understand that this is a final document (not a draft), so this will not be rewritten. However, for purposes of enhanced clarity in the future, you may consider some of the suggestions which follow.

Punctuation errors continue to plague you, but this document was as good as anything that your organization has printed. The lack of comma faults was especially appreciated.

On page 5, the "risk was assessed" margin information needed another rewrite.

On page 7, the other margin information probably should have stated that the scenario involves a family living by subsistence farming on that land continuously for 30 years! Is such a scenario reasonable?

On page 8, the measurement of 1,000 milligrams per kilogram would have been clearer if written "one gram per kilogram." There are some "that's" missing from this page. "No-action" should be written as a hyphenated expression when the two words together are used as an adjective to modify the word "alternative."

An example of improved word usage follows:

On page 10, you wrote, "Sampling of the soil indicated the soil." A better wording would have clearly stated "Sampling indicated that the soil posed a risk."

Ex-situ and *in-situ* should be hyphenated expression (the same as off-site and on-site) in italics (they are Latin).

The final paragraph on page 13 could have been improved. What materials are "like" sand or grout? Was "such as sand or grout" the intended meaning? If sand and grout are excluded from consideration, you should have suggested what you would use. When "30-meter" is used as an adjective to modify the noun "area," 30-meter should be written as a hyphenated expression.

On pages 16 and 18, a statement regarding the 30.7-year half-life of cesium-137 would have been helpful.

N6-1/11

N6-2/27

N6-3/11

N6-4/12

N6-1/11

An effort was made to respond to specific areas that concerned readers, which included organizing a focus group with members of the public to ask exactly what items were hard to read or understand, and hear ideas on improvement. Many changes resulted from readers' requests.

Word usage and punctuation are aspects of the document's style, which follows a style guide established by INEEL for this type of public, yet technical, document. The comments reflecting one reader's usage preference (see Comments N6-1 and N6-3) are noted, and may be considered in future style guide revisions.

N6-2/27

Uniform CERCLA regulations/process require that the risk assessment estimates used in the comprehensive RI/FS be based on the goal of reducing risk to acceptable levels. The alternatives subsequently considered and the costs estimated for them are likewise required to relate only to actions that reduce the risks to acceptable levels.

N6-3/11

See response to Comment N6-1, above.

N6-4/12

The Agencies appreciate all suggestions from the public on types of information that could help a proposed plan better serve its purpose. The proposed plan is an important community relations activity undertaken as part of the CERCLA process. The EPA's CERCLA guidelines (see 40 CFR 300.430 and *Guidance on Preparing Superfund Decision Documents*, OSWER Directive 9355.3-02) define a proposed plan's content and purpose.

The proposed plan, under CERCLA guidelines, supplements and is based on the comprehensive RI/FS "but is not a substitute for that document." The proposed plan provides a "brief summary description" of (1) the remedial alternatives evaluated; (2) the alternative that is preferred; (3) the information that supports the selection of the preferred alternative. Other sections of the proposed plan – history and nature of site contamination, previous actions, and risk assessment – are merely summaries of more detailed investigations, included as background information. For readers who seek more comprehensive detail on any aspect of the investigation process, the plan provides references to the relevant sections of the comprehensive RI/FS and other documents in the Administrative Record that present in full the information from which the proposed plan is derived.

The suggestion that the short half-life of cesium-137 (30 years) be brought forward in the proposed plan is an excellent one. The relative shortness of this radionuclide's half-life is important in development and evaluation of remediation alternatives for contamination sites that contain this element. Including this information enhances readers' understanding of the proposed alternatives in a brief and straightforward manner. Information on the half-lives of radionuclides has been included in subsequent proposed plans at the INEEL, such as those prepared for WAG 4 (Central Facilities Area) and WAG 5 (Power Burst Facility/Auxiliary Reactor Area).

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From a technical viewpoint, it appears that the following would be the most practical remediation alternatives:

Alternative 4 for remediation of the V-tank sites.

Alternative 3 for remediation of the PM-2A tank sites.

Alternative 3a for remediation of the TSF-06 site.

Alternative 1 for the Disposal Pond.

Alternative 2 for the Burn Pits (although the price of 3.9 million seems excessive!)

Serious consideration could be given to complete remediation of the entire petroleum-contaminated area now. This involves relocating the building activities, the roadway, and the parking area. The cost would be much less than going through the same process for a third time. Early in the 1990s, some contaminated soil was removed. Your proposed plan is to remove more soil between buildings now, then return for the remaining contaminated soil upon decommissioning of the buildings in the area. The plan to excavate and "land farm" the soil seems fine. However, remediation of the entire area now would be ideal.

Please consider our participation in the proposed mercury contamination phytoremediation research. I will contact you to discuss ideas of how the Shoshone-Bannock Tribes could assist with Hg uptake studies.

The Shoshone-Bannock Tribes consider the native plant species to be a cultural resource. Please encourage complete remediation wherever possible to include re-establishment of native plant species.

Sincerely,



Ted L. Carpenter
Project Environmentalist

N6-5/53

The ISV technology that was tested for the V-Tanks site is a modification called planar ISV. As described in the *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854), it is an enhancement of conventional ISV technology that resolves problems that have occurred using conventional ISV. Reliability problems and process upsets are not anticipated for planar ISV. Planar ISV could simultaneously treat, in situ, the radioactive and chemically hazardous materials in the V-Tanks (including the PCBs) and the contaminated soil surrounding the tanks. The planar ISV system has been accepted for use on four Superfund projects to date. These previous demonstrations and the treatability study show that planar ISV could be expected to successfully treat the V-Tank contents and surrounding contaminated soil to achieve final remediation goals.

N6-6/56

Alternative 3d is preferred for remediation of the PM-2A Tanks because it would use a proven technology to achieve long-term effectiveness through removal of contaminants. The decontaminated tanks would not need to be removed. The cost-effectiveness is very high relative to other alternatives.

N6-7/60

For the Soil Contamination Area South of the Turntable (TSF-06, Area B), Alternative 3a is readily implemented and results in high long-term effectiveness by removing contaminated soil and consolidating it in a managed repository.

N6-8/65

For the Disposal Pond (TSF-07), Alternative 1 – Limited Action will effectively protect human health and the environment from the risk posed by cesium-137 while allowing the active portions within the release site to continue operating. The cesium-137 (half-life of 30 years) will be attenuated through decay to below acceptable levels within the 100-year institutional control period.

N6-9/71, 70

The Agencies believe that the selection of Alternative 2 – Containment with Native Soil Cover for the Burn Pits is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability. The costs for containment include all monitoring and review costs associated with Alternative 1 – Limited Action, plus the costs of monitoring against subsidence, water infiltration, contour alterations, and other changes in protectiveness of the cover over time, which are actions not required under Alternative 1.

N6-10/81

The previous removal at the Fuel Leak (WRRTF-13) was in response to a spill and took as much soil as was thought to be necessary. The adjacent buildings are currently in use and are not scheduled for D&D within a timeframe such that deferring all remediation of the Fuel Leak site would be prudent management practice. An evaluation will be made in the remedial design to determine the most appropriate time to perform the remediation.

**Test Area North, Waste Area Group 1
Public Comment Document N6**

Comment(s)

Response to Comments

N6-11/78

The design of the phytoremediation treatability study will include review of all current scientific documentation and ongoing research both in and beyond the DOE complex. Public information and comment opportunities will be carried out as part of the INEEL's public involvement activities.

N6-12/39

DOE guidance on revegetation is used to determine what is used. Crested wheat-grass, not a native species, is currently a typical choice for planting on CERCLA remediated sites. Factors in the choice of revegetation species include the availability of seed and the need for post-planting care.

Test Area North, Waste Area Group 1
Public Comment Document N7

Comment(s)

Response to Comments



Citizens Advisory Board
Idaho National Engineering and Environmental Laboratory

PROPOSED PLAN FOR WASTE AREA GROUP 1 -
TEST AREA NORTH

DRAFT RECOMMENDATION

The following recommendation is submitted to the Department of Energy's Idaho Operations Office (DOE-ID), Region X of the U.S. Environmental Protection Agency; and the State of Idaho as the Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board's (CAB) comments on the Proposed Plan for Waste Area Group 1 (WAG 1). The plan was prepared to support compliance with the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) requirement for public review of cleanup decision making.

The INEEL CAB had reviewed a previous version of the Proposed Plan for WAG 1 that was also released for public review in the spring of 1998. Consensus was achieved on INEEL CAB Recommendation #40, dated March 18, 1998, which communicated Board concerns about that previous version of the Proposed Plan. Recommendation #40 stated that "After careful review of the Proposed Plan for WAG 1, the INEEL CAB concluded that the document is too flawed for public review and the apparent errors preclude reasoned review of the document." In addition, the recommendation observed that "The only meaningful recommendation we can make at this time is that the entire document needs to be done over again in order for the public to review it and provide comment on the decisions it will support."

The U.S. Department of Energy (DOE-ID) apparently took our suggestion to heart and issued a new Proposed Plan some eight months later. We understand that considerable effort was expended in revising the document, including a videoconference with key stakeholders to solicit input on the format of the document. The revised Proposed Plan is now much improved and can support public review as appropriate under CERCLA. The revised Proposed Plan for WAG 1 provides a clear review of the results of the Remedial Investigation and Feasibility Study and the Risk Assessment and the tables allow for comparison among the remedial alternatives. We particularly appreciated the use of shaded columns to highlight the preferred alternatives. The most notable distinction between the two versions of the document, however, is that the revised version presents the arguments in favor of the preferred alternatives for each of the sites at WAG 1 much more clearly than the previous version did. With the exceptions noted below, the INEEL CAB is supportive with DOE-ID's efforts to proceed cleanup at WAG 1.

The INEEL CAB commends DOE-ID for the vast improvements in the Proposed Plan for WAG 1 and recommends that all future proposed plans adopt its enhanced formatting and clarity. We noted with regret that the recently released Proposed Plan for Waste Area Group 3

N7-1/8

N7-1/8

In response to public comment, the Agencies revised the proposed plan and re-released it. During the review of comments on the proposed plan, the Agencies reassessed their initial determination for some WAG 1 sites that the preferred alternative provided the best balance between criteria. The Agencies factored in newly available information and the points of view expressed by the public. A Feasibility Study Supplement was prepared to consider several additional alternatives and reevaluate the alternatives. The proposed plan was revised accordingly.

N7-2/11

N7-2/11

An effort was made to respond to specific areas that concerned readers, which included organizing a focus group with members of the public to ask exactly what items were hard to read or understand, and hear ideas on improvement. Many changes resulted from readers' requests.

N7-3/4

N7-3/4

Comment noted.

N7-4/11

N7-4/11

See response to Comment N7-2, above.

A-88

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Comment(s)

Response to Comments

(WAG 1) would have been measurably enhanced through adoption of an approach to document clarity and formatting similar to that applied to the new Proposed Plan for WAG 1.

N7-4/11
(continued)

The INEEL CAB Board noted that Table 1 presents only two options for presenting the risks posed by contamination to ecological receptors, <1 and >1. The INEEL CAB recommends that future Proposal Plans present actual numbers for calculated hazard indices that exceed 1 as they trigger consideration of remedial actions. Indicating only that the risk exceed 1 does not allow the public to gauge relative hazards from site-to-site or to balance ecological risk against human health risk when commenting on cleanup alternatives.

N7-5/29

N7-5/29

Presenting actual numbers for ecological risks is an excellent suggestion and was immediately incorporated into proposed plans in preparation. It is a good example of a way to provide much more information to the public without adding appreciably to the plan's length or complexity. Full details of WAG 1 ecological risk assessment results are contained in Section 7 of the comprehensive RI/FS.

The INEEL CAB noted during the presentation we received on the Proposed Plan that there were no operating and maintenance costs included in the total cost estimate for the Soil Contamination Area South of the Turntable (TSF-06, Area B). It was explained that the costs for operating and maintenance are included in cost estimates for the INEEL Consolidated Disposal Facility (ICDF), which is a preferred alternative being considered in the Proposed Plan for the Idaho Chemical Processing Plant, Waste Area Group 3. The CAB objects to this methodology. Cost estimates presented in proposed plans continue to confuse the reader. It is not accurate to suggest that there will be no costs associated with the stewardship of the materials excavated from TSF-06 after they have been disposed. We believe the pro rata share of costs for operating the ICDF should be presented for each waste area group that will contribute to the total volume of wastes to be disposed there. The INEEL CAB recommends that future proposed plans provide comparable cost estimates for all alternatives and offer full and complete estimates of all related costs. We are amenable to an explanation that the costs will be paid out of another program account or other explanation if DOE feels that the cost estimate is not "real."

N7-6/18

N7-6/18

The actual on-site disposal location for TAN materials, which could be the Radioactive Waste Management Complex, the proposed ICDF, or another facility, will be determined during remedial design following implementation of this ROD. The revised cost estimate to the comprehensive RI/FS included a \$104 per cubic yard tippage (disposal) fee for the on-site disposal facility for cost comparison purposes. Other cost estimate details and assumptions are contained in Appendix J of the comprehensive RI/FS. The revised cost estimate, along with the comprehensive RI/FS and related documents, is in the Administrative Record.

The previous Proposed Plan considered remedial action alternatives at the Disposal Pond (TSF-07) to reduce the risks associated with radium-226. During discussions prior to the issuance of our recommendation on the previous version of the Proposed Plan, INEEL CAB members noted that document's lack of information regarding the level of radium-226 that is naturally-occurring in the vicinity of the Disposal Pond. We questioned the rationale for attempting to conduct cleanup actions to reduce the radium-226 level to a level below background levels in the absence of known background levels. We appreciate the fact that DOE conducted additional investigations to fill the data gap, and we further appreciate the conclusion that the level of radium-226 in the Disposal Pond does not necessitate implementing remedial actions to that particular contaminant.

N7-7/62

N7-7/62

Radium-226 does not require remediation at the TAN Disposal Pond (TSF-07). The February 1998 proposed plan listed radium-226 as one of the COCs at the Disposal Pond. Following the release of the first proposed plan in February 1998, further investigation of the radium-226 concentrations at the Disposal Pond determined that it is present at levels that are below naturally occurring background levels established for the INEEL. The CERCLA process does not require cleanup to below naturally occurring levels. The revised proposed plan issued in November 1999 reflected this expanded knowledge. Detailed information can be found in the Administrative Record in the *TAN TSF-07 Pond Radium-226 Concentrations and Corrections* report (LMITCO Engineering Design File ER-WAG 1-08, INEEL/EXT-98-00505, June 1998).

Table 1 in the Proposed Plan indicates that the contamination in the Disposal Pond poses a hazard index of >1 to ecological receptors. The preferred alternative, limited action, does not address ecological risk, however. We had understood from presentations in the past that ecological risks of >1 do not necessarily warrant remedial action and that at some point, remedial action is required to address ecological risks. The INEEL CAB recommends that the Record of Decision for WAG 1 describe how the limited action alternative will address ecological risk at the Disposal Pond for the next 100 years.

N7-8/67

N7-8/67

The Disposal Pond (TSF-07) will be evaluated in the site-wide ecological risk assessment under Waste Area Group 10.

**Test Area North, Waste Area Group 1
Public Comment Document N9**

Comment(s)

Response to Comments

The INEEL CAB questions the high costs associated with operating and maintenance for the preferred alternative at the Burn Pits (TSF-03 and WRRT-01) if lead is the only contaminant of concern. In addition, we understood (based on the presentation to the Board) that the capital cost estimate is based on the most expensive possibility that would apply if DOE determines that a 10-foot engineered cover would be required instead of less costly options. It appears that the cost estimates presented in the Proposed Plan portray the cost estimates as if they can be precise, yet the likely actual costs will fall somewhere within a comparatively broader range. The INEEL CAB recommends that DOE-ID present less precise cost estimates in future Proposed Plans when appropriate.

If DOE-ID believes that the cost estimate presented for the native soil cover (\$6 million) is accurate, then the INEEL CAB wonders why the native soil cover was preferred over excavation and on-site disposal. We note that Table 6 indicates that: (1) the "excavation and on-site disposal" alternative would be superior to the "native soil cover alternative" for two of the evaluation criteria (long-term effectiveness and reduction of toxicity, mobility, or volume), (2) the two alternatives are equivalent for the rest of the criteria, and (3) the two alternatives would cost the same. In addition, selection of the "excavation and on-site disposal" would be consistent with the preferred alternative at the Soil Contamination Area South of the Turntable. If the cost estimate for the "native soil cover" alternative is inflated for some reason, we suggest it be estimated more accurately. The INEEL CAB will support selection of the preferred alternative for the Burn Pits if it would be less costly than the "excavation and on-site disposal" alternative. **If the two alternatives will indeed cost the same, the INEEL CAB recommends that DOE-ID reconsider the selection of a remedy for the Burn Pits.**

The INEEL CAB noted that the revised Proposed Plan states that the preferred alternative for the Mercury Spill Area (TSF-08) would involve a treatability study for phytoremediation; the original Proposed Plan had called for a much more costly excavation. The INEEL CAB previously supported selection of phytoremediation as one of the preferred alternatives for remediation at Argonne National Laboratory - West (ANL-W). We again applaud the selection of a preferred alternative that is both innovative and less costly than the other alternatives; we are hopeful that the treatability study will support phytoremediation. **The INEEL CAB recommends communication and coordination with ANL-W to ensure that any lessons learned from that effort are applied to the design and implementation of the treatability study at the Mercury Spill Area.**

N7-9/72

N7-9/72

The operation and maintenance costs for containment at the Burn Pits sites include all monitoring and review costs associated with Alternative 1 plus the costs of monitoring against subsidence, water infiltration, contour alterations, and other changes in protectiveness of the cover over time, which are actions not required under Alternative 1. Given the persistence of lead contamination, either Alternative 1 or 2 would likely require long-term monitoring and maintenance for the full 100-year period of institutional control. Part II of this ROD describes the engineered cover thickness requirements, which differ based on the amount of clean soil currently covering each of the Burn Pits. Appendix J of the comprehensive RI/FS provides detailed cost estimate assumptions, including ranges of estimates.

N7-10/71

N7-10/71

The Agencies believe that the selection of Alternative 2 – Containment with Native Soil Cover for the Burn Pits is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability. The remedial design will require sampling and analysis to design the soil cover to ensure that it will be completely protective of human health and the environment. If it were determined that a fully protective cover could not be cost-effective, then one of the Alternative 3 variations (Excavation and On-Site or Off-Site Disposal) would be selected.

N7-11/78

N7-11/78

The design of the phytoremediation treatability study for the Mercury Spill Area will include review of all current scientific documentation and ongoing research both in and beyond the DOE complex. Public information and comment opportunities will be carried out as part of the INEEL's public involvement activities. In developing alternatives, CERCLA guidance expresses a preference for the development of innovative treatment technologies if they offer the potential for superior treatment performance or implementability, fewer adverse impacts than other available approaches, or lower costs for similar levels of performance than demonstrated technologies. Phytoremediation is a low-cost remediation option for sites with widely dispersed contamination at low concentrations. The study will determine the rate of uptake of mercury by plants at the INEEL. Based on the results of the phytoremediation treatability study, a determination will be made as to subsequent action, if required.

¹ See INEEL CAB Recommendation #36 addressing the Proposed Plan for Waste Area Group 8, dated January 21, 1998.

Test Area North, Waste Area Group 1
Public Comment Document T1

IDAHO NATIONAL ENGINEERING
ENVIRONMENTAL LABORATORY PUBLIC MEETING

Test Area North Comprehensive Remedial
Investigation/Feasibility Study Proposed Plan

February 23, 1998
Idaho Falls, Idaho
7:00 p.m.

Nancy Schwartz Reporting
2421 Anderson Street
Boise, Idaho 83702
(208) 345-2773

IDAHO FALLS, IDAHO, MONDAY, FEBRUARY 23, 1998

MR. SIMPSON: Any other questions? Now I would like to encourage anyone who has any comments to take the mike from me and make the comments. I would like to state that when you make your comment, please clearly speak your name and give your address so we can send you a copy of the Record of Decision. Would anyone like to make any comments? Yes, Mr. White.

PUBLIC COMMENT

AUDIENCE MEMBER: Well, for any of you guys that have been around for a while, I try to go to most of these because it's of interest, and I was at the site for a number of years and what have you. And I have been involved with nuclear projects around the county.

In going through this TAN proposed plan here, this is one of the most, I think, complete or -- I guess that is the word to use, complete assessment of all of these alternatives that I have seen. They all covered -- different ones covered assessments, but this one seems to be in more detail and seems to be -- if you'll pardon the expression -- more thought out than some of the others.

I looked at all the alternatives, and I think in every case, the alternative that was chosen certainly seemed to be the right approach to the problem at hand for that particular site. Others would have worked, but this, for one reason or another, either cost-wise or the use of the land in the future being catalogued and what have you.

I was on a task force here several years ago where we looked at the whole site, about what would happen over the next 10, 25, 50, 75 and 100 years. Believe it or not, there is the possibility that 100 years from now that might be a housing area. Who knows? It's hard to tell. So all in all, I was pretty well pleased with what I read here, and I thought that the alternatives that were chosen were pretty apropos.

MR. SIMPSON: Thank you. Anyone else? Would anyone else like to make a comment?

With that, I guess I would like to remind people that the comment period remains open until March 18. Once again, there is a comment form on the back of each proposed plan, a postage-paid comment form. So thanks for coming.

(Meeting concluded at 8:00 p.m.)

Comment(s)

Response to Comments

T1-1/4

The CERCLA process carried out for TAN includes all required community relations activities, to ensure the public appropriate opportunities for involvement in a wide variety of site-related decisions, including site analysis and characterization, alternatives analysis, and selection of remedy. The public meetings, the proposed plans and associated comment periods, and the Administrative Record all provided opportunities for the community to learn about the WAG 1 remediation and inform the Agencies about their concerns. The Agencies hope that the WAG 1 CERCLA process with its public comment opportunities, and other regulatory hearing processes required by RCRA, will help build trust in the INEEL's path forward.

T1-2/4, 53, 56, 60, 65, 70, 77, 80

Every reasonable effort is made to ensure that TAN remediation activities contribute to the ultimate goal of protecting human health and the environment by use of recognized engineering and institutional responses, that meet standards for protectiveness identified by the Agencies. These standards (ARARs) were identified in the comprehensive RI/FS and this ROD and will be enforced by the Agencies.

Planar ISV, a technological improvement over conventional ISV, was tested in a treatability study in 1998 for the V-Tanks (TSF-09 and TSF-18), which demonstrated that Alternative 4, using planar ISV, could be readily implemented with high effectiveness on the contamination in and surrounding the V-Tanks.

The reevaluation of alternatives during revision of the proposed plan resulted in a change of preferred alternatives for PM-2A Tanks (TSF-26) to Alternative 3d, which would use a proven technology to achieve long-term effectiveness through removal of contaminants. The decontaminated tanks would not need to be removed. The cost-effectiveness is very high relative to other alternatives.

Excavation and On-Site Disposal, the preferred alternative for the Soil Contamination Area South of the Turntable (TSF-06, Area B) is a readily implemented alternative that results in high long-term effectiveness by removing contaminated soil and consolidating it in a managed repository.

At the Disposal Pond (TSF-07), Alternative 1 -- Limited Action will effectively protect human health and the environment from the risk posed by cesium-137 while allowing the active portions within the release site to continue operating. The cesium-137 (half-life of 30 years) will be attenuated through decay to below acceptable levels within the 100-year institutional control period.

The preferred alternative for the Burn Pits (TSF-03 and WRTTF-01) was changed from the February proposed plan preference of Limited Action to Alternative 2 -- Containment with Native Soil Cover. The Agencies believe that this change is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability.

During the revision of the proposed plan, the Mercury Spill Area (TSF-08) was removed from this ROD for use in a phytoremediation treatability study.

The reevaluation of alternatives resulted in a change of preferred alternatives for the Fuel Leak (WRTTF-13) from Alternative 2 -- Limited Action to Alternative 4 -- Excavation and Land Farming, which would have high long-term effectiveness through removal and treatment, and has the lowest cost of the four alternatives evaluated because it does not require long-term monitoring.

Test Area North, Waste Area Group 1
Public Comment Document T2

Comment(s)

Response to Comments

IDAHO NATIONAL ENGINEERING
ENVIRONMENTAL LABORATORY PUBLIC MEETING

Test Area North Comprehensive Remedial
Investigation/Feasibility Study Proposed Plan

February 24, 1998
Boise, Idaho
7:00 p.m.

Nancy Schwartz Reporting
2421 Anderson Street
Boise, Idaho 83702
(208) 345-2773

BOISE, IDAHO, TUESDAY, FEBRUARY 24, 1998

A-92 MR. SIMPSON: At this time I would like to open it up for the public comment session where your comments are made for the record. And we have a court reporter, who will be recording your comments verbatim. When you do make your comments, please state your name and give your address so we can send you a copy of the Record of Decision. So, who would like to go first? Anyone?

PUBLIC COMMENT

AUDIENCE MEMBER: I'm Pam Allister. I'm from Boise. I represent the Snake River Alliance. I'm not going to enter any specific comments into the record tonight, although I'm very glad to have such a thorough presentation.

We will enter our comments in written form. Beatrice Brailsford will do that on our behalf. She is our program director. And we appreciate the extension that you have given to the other times. And for us, it may be that we will need to request an extension again -- I don't know if that is possible -- due to Beatrice's illness.

MR. SIMPSON: Thanks. Anyone else? Okay. I just want to remind you that there are comment forms at the back of each proposed plan and those are postage-paid, so you can write your comment and mail those to us. The comment period for this project, once again, remains open until March 18th. Our next public meeting is Thursday in Moscow.

I should mention, the next time that we will be here in Boise will be May the 5th to discuss the results of the Comprehensive Remedial Investigation Feasibility Study for the Idaho Chemical Processing Plant.

I've been involved in writing fact sheets for that project. I can tell you there is a great deal of interest in the Chem Plant, specifically, for the contamination that exists and then also for the possible costs of remediation of that facility.

AUDIENCE MEMBER: Do you have the other sites' schedules for that? Will you be meeting in Idaho Falls and Moscow for the Chem Processing Plant?

MR. SIMPSON: Yes, we will. Right now the dates are tentative, but May 5th, 6th and 7th.

T2-1/7

The Agencies encourage citizen involvement in decision-making at the INEEL. To ensure opportunities for public interaction with project representatives, public meetings are conducted at multiple locations across the state to ensure that interested parties can participate, despite their distance from the INEEL itself. The WAG 1 proposed plan was revised extensively and re-released in direct response to public comments. The comment periods for both proposed plans were extended in response to public requests for additional time to participate in the decision-making process. A broad variety of topics are discussed in the informal portions of the public meetings, in response to the concerns of the people who attend. A variety of materials on the many ongoing cleanup programs are made available to people who attend the meetings. In addition, the INEEL provides other avenues for public involvement, including tours and briefings. Postal addresses, telephone numbers, e-mail addresses, and Internet site addresses are provided in each proposed plan for citizens to get additional information, briefings, or tours from Agency and project representatives.

T2-1/7

<p>Test Area North, Waste Area Group 1 Public Comment Document T2</p>	<p>Comment(s)</p>	<p>Response to Comments</p>
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AUDIENCE MEMBER: The order?

MS. DOLD: I believe it's Boise, Moscow and Idaho Falls.

MR. SIMPSON: I should mention there will be another fact sheet that will becoming out on that project as well.

AUDIENCE MEMBER: Is there any flexibility in moving those dates one week into May, or is that not the moving target part?

MR. SIMPSON: I would say the dates at this point are just tentative.

AUDIENCE MEMBER: I would make a note, offer it to the committee that it happens to be that is the exact same date that all the Alliance and some of our directors will be out of the state at a National meeting, and we're going to miss the big deal. We will be sending proxies or conference calls or e-mails. S I don't know what we will do, but if you can move it up to the next week of May, that will be very helpful for us.

MR. SIMPSON: I will convey your comment to the project managers.

Also, you can request a briefing on that project. And I have been involved in some media briefings that we've done so far, and we did a radio interview a couple weeks ago in Idaho Falls. You can request a briefing on that project, as well as Test Area North.

I would like to thank everyone for coming tonight. As I mentioned earlier, we will hang around afterwards, if you have any questions. So thanks for coming.

(Meeting concluded at 8:30 p.m.)

Test Area North, Waste Area Group 1
Public Comment Document T3

IDAHO NATIONAL ENGINEERING
ENVIRONMENTAL LABORATORY PUBLIC MEETING

Test Area North Comprehensive Remedial
Investigation/Feasibility Study Proposed Plan

February 26, 1998
Moscow, Idaho
7:00 p.m.

Nancy Schwartz Reporting
2421 Anderson Street
Boise, Idaho 83702
(208) 345-2773

MOSCOW, IDAHO, THURSDAY, FEBRUARY 26, 1998

MR. SIMPSON: Other questions? With that I would like to open it up for public comment. This is the portion of the meeting where your comments are recorded by our court reporter, and she will record them verbatim. And when you make a comment, please state your name and spell it and give a street address. This is so we can send you a copy of the Record of Decision and Responsiveness Summary where your comments will be responded to by the agencies.

PUBLIC COMMENT

AUDIENCE MEMBER: Chuck Broschious B-r-o-s-c-i-o-u-s, executive director of the Environmental Defense Institute, Post Office Box 220 Troy, Idaho 83871.

Just to repeat myself, to make sure it gets in the public record. It is the proposed plan for Test Area North, it's not a comprehensive plan. As I mentioned, it didn't include the ANP cast storage pad or the Area 10 reactor vessel burial site or the TAN pool and contaminated soil.

The other proposed actions do not meet regulatory requirements for a permanent disposal site for mixed low-level waste under Resource Conservation Recovery Act, Subtitle C, requirements. And it's truly terrible that the regulators are not forcing the Department of Energy to come up with plans that meet all regulatory requirements.

The approach with the same waste streams at Hanford resulted in a much different and regulatorily defensible approach, in terms of the Environmental Restoration Disposal Facility, which is a RCRA, Subtitle C compliant and NRC compliant mixed low-level waste site. That is what should be done with this waste. And we'll do our best to try to convince you to do it. Thank you.

MR. SIMPSON: Thanks, Chuck. Anyone else? Okay. I would just like to mention that we will hold technical briefings for anyone who would like on this project. Also the comment period remains open until March 18th. And if you'd like to take a proposed plan and provide written comments by writing on the comment form attached and just folding it and placing it in the mail, we will get that as well.

Comment(s)

Response to Comments

T3-1/22

The proposed plan is a summary of those sites at TAN where remedial action is required to protect human health and the environment from risks posed by past releases of contamination. The proposed plan is based on the comprehensive RI/FS for WAG 1, which was the culmination of nearly 50 investigations of potential release sites at TAN.

These investigations, which began after the 1991 signing of the FFA/CO for INEEL, determined that 94 potential release sites at TAN required study. A 1995 Record of Decision initiated action at 2 sites and determined that no action or no further action was needed at 30 sites.

The comprehensive RI/FS evaluated the remaining 62 potential release sites and determined that no action or no further action was needed at 53 sites, and threats to human health required remedial action at 9 sites. One of these 9 sites, the Mercury Spill Area (TSF-08) was selected for a treatability study and will be remediated (if necessary) under WAG 10. Two sites do not pose a threat to human health but do pose a risk to the environment: the LOFT-02 Disposal Pond and the WRRTF-03 Evaporation Pond. These sites also will be addressed under WAG 10.

As part of the comprehensive WAG 1 risk assessment, all TAN buildings and structures that are still active or inactive but in standby mode were also evaluated to determine whether future releases from them could occur that would affect the cumulative and comprehensive assessment of risk. As documented in Appendix D of the comprehensive RI/FS, only 4 of the 89 buildings or structures could pose risk in the future. Appendix D also describes the programs in place to prevent risks to human health or the environment.

The information and evaluations leading to these decisions is contained in the Administrative Record. The primary decision documents are the OU 1-07 ROD, the comprehensive RI/FS, the Feasibility Study Supplement, and the Track 1 and Track 2 reports. The Agencies believed that the proposed plan issued in February 1998 and the revised proposed plan issued in November 1998 summarized this information adequately. To resolve any confusion or lack of clarity that may have resulted, the following list recaps the disposition of the sites in question.

TSF-06, Area 8, ANP Cask Storage Pad. Part of this site is currently included within the active Radioactive Parts Service and Storage Area (RPSSA) facility, which will be evaluated during future dismantlement. Sampling during the risk assessment indicated that the soil contamination at this site is below the levels at which remediation is required. More information on this site is available in the Administrative Record for WAG 1.

TSF-06, Area 10, Buried Reactor Vessel. The irradiated reactor vessel is contained in a metal storage tank and is believed to be more than 10 feet below ground surface. No pathway to human or ecological receptors exists. More information on this site is available in the Administrative Record for WAG 1.

TAN Pool (part of TAN-607 Hot Shop). The TAN Pool is part of an active facility. Potential threats to human health and the environment from this site will be addressed during its removal from use. More information on this site is available in the Administrative Record for WAG 1. As part of an active facility, the TAN Pool is not being addressed under this CERCLA action.

T3-1/22

T3-2/
23, 4

**Test Area North, Waste Area Group 1
Public Comment Document T3**

The next time that we will be here in Moscow will be in May. At this point it's tentative, but in early May to discuss the results of the Idaho Chemical Processing Plant Comprehensive Remedial Investigation/Feasibility Study and also to remind you that the comment period remains open on the Naval Reactors Facility and Argonne National Laboratory-West until the 12th of March. So with that, thanks for coming. We will hang around afterwards, if you have any other questions.

(Meeting concluded at 8:55 p.m.)

Comment(s)

Response to Comments

T3-2/23, 4

Mixed low-level waste (MLLW) contains both hazardous and low-level radioactive components. The contents of the V-Tanks (TSF-09 and TSF-18) and the PM-2A Tanks (TSF-26) are considered mixed low-level waste (MLLW). Regulations applicable to these sites are listed in Part II, Section 7, of this ROD.

The investigation and cleanup process and schedule for TAN have complied with the FFA/CO for the INEEL signed in 1991. The remedies proposed for WAG 1 sites are in no way illegal. Every reasonable effort is made to ensure that TAN remediation activities contribute to the ultimate goal of protecting human health and the environment by use of recognized engineering and institutional responses, that meet standards for protectiveness identified by the Agencies (DOE, EPA, and State of Idaho). These standards (ARARs) were identified in the comprehensive RI/FS and this ROD and will be enforced by the Agencies.